

# Electrically operated valves



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# Preface

This is the third edition of CSA C22.2 No. 139, *Electrically operated valves*. It supersedes the previous editions, published in 1982 and 1973. It replaces the requirements of CSA International TIL No. H-12, *Electrically operated valves — Modular assembly*.

This Standard is one of a series of Standards issued under the *Canadian Electrical Code, Part II*.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

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This Standard was prepared by the Subcommittee on Electrically Operated Valves, under the jurisdiction of the Technical Committee on Industrial Products and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

**Interpretations:** The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA’s procedures for interpretation shall be followed to determine the intended safety principle”.

June 2010

## Notes:

- (1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- (3) *This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*
- (4) *CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.*
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  - Requests for interpretation should*
    - (a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
    - (b) provide an explanation of circumstances surrounding the actual field condition; and*
    - (c) be phrased where possible to permit a specific “yes” or “no” answer.*

*Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are published in CSA’s periodical Info Update, which is available on the CSA Web site at [www.csa.ca](http://www.csa.ca).*

# C22.2 No. 139-10

## ***Electrically operated valves***

### **1 Scope**

#### **1.1**

This Standard applies to electrically operated, general-purpose valves\* and safety valves\* that are intended to be used in ordinary locations in accordance with the *Canadian Electrical Code, Part I*, for the control of fluids (e.g., air, gases, oils, refrigerants, steam, water, etc.), and rated 600 V and less.

*\*For convenience, the shorter term "valve" is used where the same requirements apply to both general-purpose and safety valves.*

#### **1.2**

This Standard also applies to valves intended to be incorporated into equipment that is subject to the requirements of the *Canadian Electrical Code, Part II*.

#### **1.3**

This Standard also applies to electrically powered mechanisms that are designed to provide the signals needed for monitoring valve operation from a remote location and to electrically powered valve actuators that are designed to be fitted to valves, except for

- (a) those utilizing 1/2 hp or larger motors; or
- (b) those intended for use on valves connected in larger than 3-inch pipe size systems.

#### **1.4**

This Standard contains requirements for electrical features of valves and requirements for mechanical features of valves that affect their safe operation.

#### **1.5**

This Standard does not include requirements for mechanical and operational features that do not directly affect the safe operation of a valve.

#### **1.6**

With respect to construction and tests of electrical features, the requirements of this Standard complement those of ANSI Z21.21/CSA 6.5.

#### **1.7**

This Standard does not apply to water valves of connection size larger than 2-inch pipe size or pressure rating above 1600 kPa (232 psi).

#### **1.8**

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

#### **1.9**

In CSA standards, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.